ANNUAL DIRECTORY OF CALIFORNIA HEALTH JURISDICTIONS

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WHAT IS REHABILITATION NURSING?

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What is different about rehabilitation nursing?"Different from what?" would be a natural question, particularly if one happens to be a nurse. The answer is, "Different from nursing as we learned it and are prone to practice it." During the time that nurses attend the three-week course on rehabilitation nursing at the Fairmont Hospital Rehabilitation and Respiratory Center they become more and more convinced that the oldtime nursing is no longer good enough.

This is what makes rehabilitation nursing different. At first glance, be-tween 8 a.m. and 4 p.m., Fairmont's well-organized rehabilitation ward for hemiplegic and paraplegic patients looks as though the nurses were on strike. In the morning the empty beds are unmade, and those that aren't empty have patients sitting up in bed or on the edge with their clothes on. struggling to tie shoelaces with the one good hand, or hanging onto a trapeze and turning themselves over, unaided but not unattended. The beds are low and have no casters: all have footboards and removable side rails. Bedside tables have no glasses of water or bouquets of flowers. Scattered on them are arm splints, braces with shoes attached, corsets, slings or other unbeautiful articles. Floors are unpolished, for safety's sake.

On second glance four nurses are to be seen in the ward. One is rolling a patient up on a tilt table, watching closely for signs of hypotension or pain as the patient slowly moves to an upright position. Another nurse is teaching her patient how to use the trapeze to get out of bed. Still another is sitting at a bedside conversing earnestly with a patient, and the fourth nurse is standing back in the ward, watching the patients who are engaged in self-care. The thing that is really disconcerting to a nurse when she first enters a ward like this one is how disorderly it looks. After participating for a few days and having some orientation to the organization required for rehabilitation nursing, the nurse-student loves this unusual ward. Here the patients are busily recovering and the nurses are friendly and warm as they carry on the many activities necessary to encourage and nurse the patients. No one expects complete order in the ward until the patients are ready to turn in for the night. This is truly patient-centered care.

As the nurse-student moves about this hospital during her three-week course, she sees that the entire building is used in therapy. Toilets are accessible and so arranged with selfhelp devices that the patients are soon able to reach them independently, swinging and stepping or sliding easily from wheelchair to toilet and back again or getting to and from with a cane. Patients regain strength and coordination by going up and down the hall stairways. Patients on tilt tables and standing boards are found in places where they can observe the activities of other patients. In one ward a group of patients is practicing knee bending and standing up exercises from chairs with a physical therapist or nurse directing them.

On the hemiplegic ward, wheelchairs are used only as a means of ambulation from one place to another. Only a few patients are allowed to use wheelchairs just for sitting. Captains' chairs are preferred for the purpose. The patient is taught to use his "good side" or his unaffected limbs, to get in and out of a chair, to dress himself, to exercise his paralyzed side, to turn over in bed, and to put himself through range of motion exercises to prevent contractures and deformity. All of this, plus the use of braces and slings, adds up to prevention of chronic disability and invalidism. Hemiplegies on this rehabilitation ward avoid development of bedsores, kidney or bladder stones, ankylosis or contractures of the hip, knee, shoulder, elbow, wrist or finger joints. Bladder control is routinely accomplished.

In order to practice rehabilitation nursing of hemi- or paraplegic or otherwise paralyzed individuals nurses must understand what needs to be done not only in the acute, but also in the convalescent, stages of illness so that the disturbances which produce invalidism are prevented and maximum rehabilitation is attained. The term, "disuse phenomena," is used to describe these preventable conditions. Many crippled and immobilized people today are suffering from disuse phenomena when their only acute disease entity was a cerebrovascular illness or other accident, or perhaps a spinal injury. The following chart is used to make this clear to the nurses taking this course:

all the other therapists and workers who assist the patient in specialized ways. The patient has almost daily contact with one or more of various professional people, such as the social worker, physical therapist, recreational therapist, sociologist, occupational therapist, orthotist (brace maker), speech therapist, dietitian, group worker or vocational rehabilitation worker. Since the nurse talks with each of these persons, she is the one to integrate individual programs requiring time for all of the persons involved in helping a particular patient. However, any worker may initiate small conferences to deal with special problems. There are also regular evaluation and planning conferences. In these the physician is the team leader and takes responsibility tiated by the occupational therapist. Another major responsibility of the nurse is re-establishing bladder and bowel function. Catheters are always removed and success is virtually routine.

The patient soon progresses from the bed phase to the "standing phase." He learns with guidance from the nurse how to get from the bed to a chair, how to begin leg exercises, such as knee bending and rising on toes. During this phase the patient begins to learn how to get into his clothes and in a few days he has mastered this. The nurse applies splints to the paralyzed forearm to prevent wrist and arm deformity, places the arm in a sling for all activities out of bed unless function returns. A short leg brace is often required when the patient begins the standing phase, correcting foot-drop preparatory to the "stair climbing phase" which begins in two to ten days. During this period the patient learns to walk up and down stairs, starting with a few steps and progressing to a whole flight. The nurse teaches this. She puts the paralyzed arm and hand in the sling and splint, and helps the patient learn how to put on his shoes and braces. She then teaches a specific stair After developing good program.* strength and coordination using the banister the patient learns to use a cane, and the gait he learns is either slow or fast depending on his need and his ability.

This is a general outline of the program for the hemiplegic patient. There are different technics for the paraplegic patient, since he may require the help of a wheelchair for ambulation and must learn to walk with crutches and long leg braces. There are individual variations as well, since some patients may have an organic mental syndrome requiring adjustment in the program through planning his activities during his more lucid moments. Speech therapy is started as soon as possible for aphasic patients. Physical therapists participate in all exercise programs and their findings regarding muscle strengths and weaknesses in each patient determine the pace at which he may progress. Nurses working with

	Disuse phenomena	Cause	Prevention
1.	Muscle atrophy	Lack of exercise	_Exercise.
2.	Joint contracture	Lack of motion	Passive range of motion and splinting.
3.	Orthostatic hypotension	Recumbent position	Tilt table and standup exercise.
4.	Bone atrophy (osteoporosis) a	nd	
	urinary lithiasis (stones)	Lack of weight bearing and muscle pull	
5.	Decubitus ulcers (bedsores)	Prolonged pressure	_Change of position.
6.	Venous thrombosis	Slowed venous flow	Change of position and exercise.
7.	Hypostatic pneumonia		Change of position, exercise, especially face-lying position.
8.	Urinary incontinence	Lack of opportunity	_Urinal or bedpan instead of indwelling catheter.

"Each of the disuse phenomena leads to further inactivity and, therefore, aggravation and extension of disuse. The chronically ill patient with weakness, decubitus ulcers, contractures, osteoporosis, incontinence, etc., all combined, is the natural result and all too frequently seen in our rest homes and chronic disease hospitals. Frequently the initial disease state is negligible as a cause of disability as compared to the deteriorative effects of disuse." (Syllabus-Principle and Technique of Rehabilitation. Lewis, L., Hirschberg, G. G., and Thomas, D. Fairmont Rehabilitation and Respiratory Center.)

Because nursing is charged with the patient's care continuously, day and night, nurses have the responsibility for coordinating the care of the patients in a team relationship with for outlining the treatment program and supervising the patient's care.

Nursing in rehabilitation utilizes many technics to help the patient prevent disuse effects. To this end it is accepted that the patient is a most active participant in his own program as soon as his acute phase of illness has subsided. In the cerebrovascular accident patient, this will probably be from the third day of illness, or as soon as the patient is conscious. This is called the "bed phase." The nurse is responsible for teaching the patient to turn from side to side, to sit up in bed, to sit on the edge of the bed and propel himself (i.e., scoot) in both directions using his good arm and leg. The nurse also encourages the patient in self-care, such as washing, shaving, brushing teeth, feeding, and combing hair-procedures which may be ini-

See "Stair Climbing as Exercise," by Gerald G. Hirshberg. Archives of Physical Medicine and Rehabilitation, 39: 23-27, January 1958.

the patients are sensitive to their personal needs and may request help for the patient from the social worker, the occupational or group therapist, dictitian, etc., who are also frequently on the wards.

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On the poliomyelitis wards rehabilitation nursing involves the same principles, but nurses frequently need to help patients with additional problems, such as respiratory insufficiency. For this, the nurse needs understanding of the process of breathing, and underlying reason for the patient's breathing problem. She must be aware of the immediate status of each patient's breathing function. Respiratory assistance is provided by various methods and the nurse must have complete understanding of the application and performance of a number of devices, such as the tank respirator, the cuirass respirator, the rocking bed, positive pressure breathing devices and the multilung—a new respirator which helps the patient breathe by way of an inflatable belt over the abdomen.

Nursing of patients in respiratory insufficiency requires astute observation as well as the most meticulous bedside nursing. The patient must have frequent changes of position, always maintaining good body alignment to avoid deformities, and the most expert of skin care. The patient needs psychological support in preparation for any procedure such as placement in a respiratory tank, performance of tracheostomy, or change from tank to rocking bed. Rehabilitation starts with prevention of deformity, maintenance of nutrition, skin care, passive exercise and range of motion exercises in the acute stage, and continues on a gradually increasing basis after the febrile period subsides. Frequently the patient requires increased ventilatory assistance during exercise periods and respiratory devices are used. In standing, walking, stair climbing he frequently utilizes breathing assistance by means of positive pressure administered at the tracheal orifice or mouth. A long connecting tube to the respirator pump makes it possible for patients to exercise on mats, parallel bars, or stairways. The physical therapist generally supervises these exercises, but they may also be carried out by a nurse on the specific prescription of the physician.

Nursing the patient who has an acute episode of illness which tends to leave him with a limitation of body function and is followed by a relatively long convalescent period includes:

- Knowledge of the disease and how it has affected the individual patient.
- Continual observation of the patient and frequent planned communication with the physician and other team members about the patient's rehabilitation progress.
- 3. Teaching the patient to carry on procedures in the acute and convalescent periods that will avoid limitations being imposed on him beyond those directly resulting from his illness.

Broadly stated, rehabilitative nursing activities include:

- 1. Bringing about frequent changes of position, the crux of the management of the disabled patient.
- Modifying the patient's environment, particularly his bed, so that self-help is possible.
- Teaching the patient to carry on bed exercises, including straight leg raising, situp, chinning, range of motion, etc.
- Using all equipment that aids the patient, such as tilt table, respirators and other breathing aids, wheelchairs, braces, crutches, etc.
- 5. Teaching the patient such procedures as: turning, stretching, dressing, eating, cane walking, erutch walking, stair climbing, toileting, balancing, care of tracheostomy, application of aids, such as corsets, etc.
- Re-establishing bladder control and preventing incontinence.
- 7. Training the patient in bowel control.
- Utilizing procedures for such patient needs as: nasogastric feeding, application of slings, splints, etc.
- Supporting the patient psychologically in whatever way is necessary to promote a positive attitude and progress in his rehabilitative program.
- 10. Preparing the patient and his family for his return home and

utilizing community resources helpful to further his rehabilitation.

In all of these activities the nurse works closely with other rehabilitation staff.

The formal title of this three-week course given at Fairmont Hospital, 15400 Foothill Boulevard, San Leandro, California, is "Rehabilitation Nursing-A Program for the Disabled and Elderly." It aims to help nurses acquire knowledge and skills in rehabilitation nursing for use in assisting patients to return to the fullest physical, social and vocational usefulness of which they are capable, and to help extend the practice of rehabilitation nursing into every area of nursing care. The courses given in March and May of 1958 were attended by nurses on the staffs of hosvisiting nurse associations, pitals, health departments and schools of nursing.

The course will again be offered in October, 1958, in May, 1959, and twice thereafter. An application for funds to support this course was submitted to the California State Department of Public Health by the Alameda County Institutions and the Alameda County Board of Supervisors, and was approved. Nurses wishing to enroll in subsequent courses may apply to the University of California Medical Extension, U. C. Medical Center, San Francisco 22, California. Stipends are available for living expenses, fees and travel.

Tuberculin Skin Test Recommended by Agencies

Three federal agencies of the U. S. Department of Health, Education and Welfare recently recommended the replacement of compulsory X-ray programs with the tuberculin skin test as the initial means of detecting tuberculosis among students and school employees. The recommendation was made by the Public Health Service, Children's Bureau and the Office of Education.

Because X-ray surveys continue to disclose more cases of tuberculosis than any other method, surveys will be encouraged among groups likely to show a high incidence of disease, such as contacts of known cases of tuberculosis, hospital patients and prison and jail inmates.

Recent Board Action On Health Personnel

At the June meeting of the State Board of Public Health:

37 Nurses were granted public health nursing certificates. 38 Sanitarians' certificates of registration

were approved. 18 School audiometrists were granted certificates.

252 Clinical laboratory technologists were licensed.

6 Clinical laboratory bioanalysts were licensed.

Public health microbiologists were granted certificates.

The Hazards of Public Speaking

As many of our readers know, the hazards which confront the public speaker are many and varied. Recently we came across another-podium buttons. Take heed, for this

could happen to you.

Standing on the elevated podium in a large meeting hall, the speaker leaned forward, pressed a button to douse the lights, and continued speaking. Then, before his astonished audience, the platform on which he stood sank serenely, and the speaker, voice fading, disappeared from view. He had pressed a button controlling a section of the stage used for lowering orchestras.

As an afterthought, this might be one method of limiting speeches to the

allotted time.

"Children now love luxury, have bad manners, contempt for authority, show disrespect for their elders, and love chatter in place of exercise. Children are now tyrants, not the servants of their households. They no longer rise when elders enter the room. They contradict their parents, chatter before company, gobble up their dainties at table, cross their legs and tyrannize over their teachers.". Socrates (467-400 B. C.).

The social necessity which gave rise to health education is that health and sickness have become more dependent on what the individual does for himself than on what can be done for him. That this should have happened at the time of greatest technical advance in medicine is one of those paradoxes which constantly renew our interest and zest in life .- Dr. John Burton, The Health Education Journal, Vol. XVI. No. 2.

Local Groups Active In Polio Vaccination

Reports from Los Angeles and Sacramento show that private groups are showing an active interest in following through on the advice of health "complete your polio officials to shots.

Since there are no funds for free public vaccination this year, the efforts of volunteer groups in providing shots at a nominal fee are especially praiseworthy.

The summer's first community sponsored \$1-a-shot polio vaccination clinic in Los Angeles was held on July 8th, from 6 to 9 p.m., at the Northeast Health Center. The event was sponsored by the Northeast Health Council for residents aged 3 months to 40 years in Boyle Heights, Lincoln Heights, Highland Park, Glassell, Mount Washington and Atwater, but the council issued a neighborly invitation to citizens in other communities to come if they wished.

The clinic was approved by the Los Angeles Medical Association and the city health department. Doctors and other staff were volunteers.

The project was a tremendous success. More than 4,000 persons were vaccinated. Members of the health council said the funds received would cover costs of the program.

A similar project has been undertaken by the Southwest Health Council. The second community-sponsored polio vaccination program has been scheduled for the Southwest Health

In Sacramento, many of the employee and P. T. A. groups that sponsored polio vaccination clinics in the all-out drive in the spring and summer of 1957 felt they wanted to finish the job by offering the third shot to members of their group.

These clinics were started in January and continued through May, 1958. There were 17 employee groups and 25 P. T. A. groups participating. The employee clinics vaccinated 10,604 and the P. T. A. clinics 18,676. Some of these were first injections, but the emphasis was on completing the basic series.

The Sacramento County Health Department supported these groups by lending syringes, needles and sterile supplies, as well as by giving consultation and frequent advice when

The charge at all clinics was \$1 per shot. The various groups purchased their own vaccine and, in most instances, paid for the professional help of nurses and doctors. Volunteers from the group members gave considerable help. Money remaining after expenses was donated to worthy health and welfare organizations.

Revised Hospital Licensing Regulations Effective September 1st

In its meeting of June 6th the State Board of Public Health adopted revisions in regulations for hospitals and nursing homes. The revised regulations were approved by the Building Standards Commission in its meeting of June 20th, and will become effective about September 1st.

The more important of the revisions include:

- 1. Modification of regulations to permit the development within hospitals and nursing homes of departments particularly adapted to the accommodation of ambulatory patients. This proposal is supported by evidence that many patients who require medical supervision and nursing care do not necessarily require accommodation in structures which are arranged and equipped exclusively for providing bed care. It is believed that this change in regulations will stimulate programs for selfhelp and ambulation among patients in nursing homes and nursing home sections of hospitals. Changes involved in regulations establish activity programs and space and eliminate requirements for some facilities in ambulatory sections which are required in sections accommodating bed
- 2. Numerous amendments were adopted eliminating such vague lan-guage as "satisfactory," "adequate" and "sufficient."
- 3. Numerous technical changes were made, including requirements for surgeries in hospitals, the method of classifying hospitals, requirements for X-ray and other special services.

DIRECTORY OF CALIFORNIA HEALTH JURISDICTIONS — AUGUST, 1958

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Etna †—Granville P. Ashcraft, M.D., Etna Fort Jones †—J. W. Taylor, M.D., Fort Jones

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E. Solano, Corning Red Bluff †—Lynn E. Wolfe, Jr., M.D.,

410 Pine St., Red Bluff Tehama †-H. T. Edwards, D.O., P. O.

Box 102, Los Molinos

TRINITY COUNTY * - MA in 3-3244-Thery Ness, M.D., P. O. Box 391, Weaverville

TULARE COUNTY - RE dwood 4-5805 -Charles W. Folsom, M.D., P. O. Box 110, Visalia (1515 W. Main St.) Served by County:

Dinuba, Exeter, Lindsay, Porterville, Tulare, Visalia, Woodlake Tulelake—See Siskiyou County

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Contract county health jurisdiction.
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Regulations for Tissue Banks Are Drawn by Department

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Proposed regulations governing the licensing and operation of human tissue banks have been drawn by the Division of Laboratories as a means of hurdling present legal barriers.

The regulations, if adopted, would pave the way for the establishment of the first living tissue banks in the world. It is believed this step will eventually make the banking of tissues as commonplace as the banking of blood.

The preservation of human tissue, and transplantation, is a relatively new and still expanding medical science. Transplanted tissue may come from donors living or deceased, and may be used to replace defective tissue.

Most human tissues cannot be transplanted from one individual to another at this time because of the action of the recipient of a protective mechanism against "foreign" substances. However, research is proceeding actively toward control of this barrier to outside materials.

At the present time, transplantation of portions of human arteries, bones and eyes from one individual to another is an established procedure. In these instances, however, the transplanted tissue acts mainly as a scaffolding upon which the body of the recipient rebuilds its own structure; the transplanted tissues themselves do not become a living part of their new environment. The future no doubt will disclose a mechanism for transplanting tissues which will allow continued life in their new surroundings. Such an outcome challenges the imagination.

In the meantime, present tissue preservation services have been hampered by lack of material. One of the obstacles encountered is the legal problem of obtaining consent for use of tissues available in the bodies of deceased persons. By the time consent can be obtained the physiological time limit for usefulness of the structure has passed. The State Legislature in its 1957 Session made some changes in the law governing these procedures which were designed to lessen the difficulty associated with obtaining this consent.

As the department set about fulfilling this requirement, an astonishing situation was disclosed. No government—federal, state, or, so far as is known, foreign—had ever prepared such regulations. The Federal Government considered it several years ago but gave up for the time being, since the task was extremely complicated and fraught with legal pitfalls. Several states and the District of Columbia are at present studying possible courses which may be followed in attempting to develop constructive regulations of this promising service.

In California a system of blood banks has operated successfully for many years under regulations by the State Health Department. It is felt California is a pace ahead of other state governments in this field. By modifying the blood bank regulations it is believed that this new field can also flourish under regulation.

The first draft of the proposed regulations has been prepared and distributed to leaders in the various interested services for their consideration. Comment by these experts has thus far been favorable. It is believed that a significant step in the direction of eventual widespread tissue preservation has been taken and that such banking of tissues will become as commonplace as the banking of blood.

Incidence of Rheumatic Fever In College Students Studied

A co-operative project of the U. S. Public Health Service and the American College Health Association is being conducted to study rheumatic fever and rheumatic heart disease in college freshmen throughout the Country. A total of 76,000 reports of physical examinations have been reviewed and analysis of the data revealed that:

- 2.6 percent of the incoming students had definite or possible rheumatic heart disease or a history of rheumatic fever.
- 1.6 percent had definite rheumatic heart disease or a definite history of rheumatic fever.
- 0.3 percent had definite rheumatic heart disease.
- 22 percent of the students with definite rheumatic heart disease and 11 percent of those

New Evidence on Life Cycle Of Encephalitis Virus

Evidence that may explain the last major unknown factor in the life cycle of the Western equine encephalitis virus—the question of how the virus manages to perpetuate itself through the winter—has been found through the combined efforts of researchers from the University of California and the U. S. Public Health Service.

Infectious encephalitis poses a threat to man mainly during the warm months of the year. The Western equine variety is transmitted to humans by the *Culex tarsalis* mosquito, which feeds predominantly on wild birds and attacks humans only by accident. The birds, when infected, develop an immunity after the virus eirculates through their blood for only a few days.

The group of scientists, led by Dr. William C. Reeves, professor of epidemiology on the university's Berkeley campus, has discovered that the encephalitis virus may exist as a chronic latent infection in birds for as long as 10 months after initial contact and may recirculate in the blood long after the short period of acute infection.

This means that mosquitoes may infect a bird with the virus one year, and a completely new generation of mosquitoes might pick it up from the bird the following year and transmit it to other birds and occasional humans.

Prior to the new discovery, it was thought that antibodies in birds completely eliminated the virus after a few days, so that it could serve as a source of infection for mosquitoes for only a short time.

The finding was the result of five years of research on the problem of encephalitis over-wintering by Dr. Reeves and his colleagues, who include Dr. R. Edward Bellamy and Glen A. Hutson of the U. S. Public Health Service Communicable Disease Center in Bakersfield, and Robert P. Scrivani, laboratory technician at the university.

with a definite history of rheumatic fever were receiving prophylactic medication.

Recent Additions To Film Library

WHY EAT A GOOD BREAKFAST? Filmstrip. Color. 34 frames. 1957

A report of the studies that were conducted jointly by the Departments of Physiology and Nutrition at the College of Medicine, State University of Iowa, on the effects of not eating breakfast. Produced by Cereal Institutes, Inc. For high school and adults. (Nutrition.)

WITHIN MAN'S POWER 29 minutes. 1954

Produced in observance of the fiftieth anniversary of the National Tuberculosis Association. Depicts the beginning of the voluntary health movement in the United States, shows developments in treatment in control of tuberculosis, and anticipates future needs for prevention of tuberculosis. National Tuberculosis Association. For high school, college, and adults. (Tuberculosis; Community Health Services.)

TRUTH ABOUT FLUORIDATION, THE Color.

15 minutes.

This film is a summary of the 10-year fluoridation survey in Grand Rapids, Michigan. Comparisons are made with communities lacking fluoridation and with communities where fluorides occur naturally in the water, or are being added, as in Grand Rapids. Michigan State Dental Association. For community groups and professional groups. (Dental Health; Fluoridation.)

WHAT ABOUT JOHNNY? Filmstrip. Color. 52 frames. 1955

This filmstrip explains San Diego County's program for the educable mentally retarded. It answers the questions: Who are the mentally retarded? How are they selected and placed in the class? What kind of curriculum is needed to best serve the children? What is their outlook for the future? San Diego County Superintendent of Schools. For use with schools, parents, service groups, college training centers and other social agencies. (Child Care and Development; Mental Health; School Health.)

New Blood Test for Syphilis Promising

National field trials are now under way on a new blood test for syphilis which reportedly is more specific than the Wasserman and simpler than the TPI test.

Los Angeles City and County Health Departments are co-operating in the field trials to determine the value of the new test for routine use in the clinical laboratory. It should be noted that the test is still in the research stage and will not be ready for service until proven in evaluation studies.

The test, called RPCF (Reiter Protein Complement Fixation) test, has compared favorably with the TPI for specificity and sensitivity. The procedure involves a refined protein antigen from the avirulent Reiter strain of syphilis spirochete.

In a comparison of TPI and RPCF tests for specificity in 180 carefully selected cases there was a correlation of 98.9 percent.

The sensitivity of the RPCF test compared to the TPI test on 189 pa-

WOODWORKING HAZARDS Filmstrip. Sound. 15 minutes. 110 frames.

Through the use of a mildly amusing story, the production manager instructs the viewer on the safe use of home workshop tools and machinery. Precautions that must be taken are also shown. Tools and machines covered include hammers, chisels, lathe, drill press, grinder, saws, soldering iron, etc. Necessary clothing and protective equipment are mentioned and pictured. Housekeeping and fire prevention are also shown. Zurich Insurance Company. For high school, college, and adults. (Accident Prevention.)

tients known to have syphilis was in agreement in 182 cases or 96.3 percent.

These findings are reported in a current issue of *California Medicine* by a research team at the UCLA Medical School. Members of the team are Drs. Carpenter, Boak, and Miller of the department of infectious diseases.

The Division of Laboratories, California State Department of Public Health, is also participating in the evaluation studies.

GOODWIN J. KNIGHT, Governor MALCOLM H. MERRILL, M.D., M.P.H. State Director of Public Health

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